

Effect of selenium supplementation on spermatogenic cells of goats.

Abstract

Selenium is an essential trace mineral that is required for many physiological functions in animals and the potential relevance of selenium to the reproductive system of livestock has been considered by many researchers. The objective of this study was to examine the effect of selenium supplementation on the spermatogenic cells of goat. Eight young male crossbred (Katjang x Boer) goats, aged between 9 to 11 months, were used in this study. The control group (CON; n = 4) was fed with a diet consisting of 60% Guinea grass and 40% concentrates while the treatment group (Se-SUP; n = 4) was fed with the same diet as the goats in the control group but with supplementation of 0.6mg selenium (sodium selenite powder) per goat daily for 100 days and were slaughtered on the 101st day. There were no significant differences ($p>0.05$) in the mean number of spermatogonium, spermatocytes, spermatozoa and the total number of spermatogenic cells between the CON and Se-SUP goat respectively. However, there was a significant increase ($p< 0.05$) of spermatid in Se-SUP goats. The mean percentage of spermatids was significantly increased ($p< 0.05$) while spermatozoa was significantly decreased ($p< 0.05$) in Se-SUP goats. In conclusion, selenium supplementation increased the percentages of spermatids and decreased the percentages of spermatozoa in the seminiferous tubules in goats.

Keyword: Selenium; Reproductive performance; Goats; Spermatozoa; Spermatogenic cells.